UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,170	10/06/2003	David Joseph Kropaczek	24GA6001	2278

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EXAMINER
CRAIG, DWIN M

ART UNIT	PAPER NUMBER
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/678,170	KROPACZEK ET AL.
	Examiner	Art Unit	
	Dwin M. Craig	2123	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 August 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>35-48</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>35-48</u> is/are rejected.

7)☒ Claim(s) <u>35, 40, 41, 42, 43 and 47</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 8/20/2007 has been entered.

1.   Claims 35-48 have been presented for examination.

Claim Objections

2.   Claims 35, 40, 41, 42, 43 and 47 are objected to because of the following informalities:

2.1   Regarding claim 35, line 12 of the current claim language teaches, *physically placing the*

fuel bundles into the reactor core, there appears to be a lack of antecedent basis for, *the reactor*

core. Further and in regards to the preamble disclosing that a *method of facilitating recovery of*

nuclear fuel from a fuel pool, the current claim fails to expressly disclose how the claimed

method steps actually *facilitate nuclear fuel*.

2.2   Regarding claim 40, line 2 of the current claim language teaches, *analyzing the populated*

graphical loading map, the preceding claim 25 from which claim 40 draws antecedent support

teaches *a populated loading map* as opposed to a *populated graphical loading map*.

2.3   Regarding claim 41, this claim is missing a period at the end of the claim as required by

MPEP section 608.01(m) "Each claim begins with a capitol letter and ends with a period".

2.4   Regarding claim 42, lines 10 & 11 currently teach, *"with at least on of the graphical fuel*

bundles", the Examiner believes that the Applicants' wanted the sentence to read, *"with at least*

one of the fuel bundles" it is noted that there are two erroneous conditions in the current claim language. The Examiner believes that the word _on_ should be _one_ and it is unclear from the current claim language where the antecedent support is for the phrase, _the graphical fuel bundles._

Further and in regards to the preamble disclosing that a _method of facilitating recovery of nuclear fuel from a fuel pool,_ the current claim fails to expressly disclose how the claimed method steps actually _facilitate nuclear fuel._

2.5   Regarding claims 42 and 43 there appears to be an inconsistency in the nomenclature as being set forth in the current claim language. More specifically in lines 10 & 11 of claim 42 is the phrase, _graphical fuel bundles,_ in claim 43, line 2 is the phrase, _graphically representing bundles in a fuel pool,_ and then further in claim 43 on line 4 is the phrase, _the graphical fuel bundles,_ clarification/amendment regarding antecedent basis as well as consistent use of phraseology is requested.

2.6   Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in _Graham_ v. _John Deere Co.,_ 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.

    2.   Ascertaining the differences between the prior art and the claims at issue.

    3.   Resolving the level of ordinary skill in the pertinent art.

    4.   Considering objective evidence present in the application indicating obviousness
or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 35-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over "MICROBURN–B2 to RETRAN-3D Linking Code" by Donald Hines and "CPW for SIMULATE-3 by Kevin O'Sullivan contained in the "Update…" newsletter hereafter referred to as the *O'Sullivan* reference in view of U.S. Patent 5,414,809 to Hogan.

3.1   Regarding independent claims 35 and 42 and using independent claim 35 as an example, *O'Sullivan* discloses, *a method of facilitating recovery of nuclear fuel from a fuel pool, the method comprising: graphically populating, via a graphical user interface, a graphical loading map with graphical fuel bundles, the graphical bundles representing fuel bundles in at least one fuel pool* (see the Figure on page 2 as well as the text "Clicking on the EXCEL command buttons loads data and graphs into a new or existing worksheet", a spreadsheet is a *graphical loading map*), *the populating based on one or more fuel attributes of the fuel bundles in the fuel pool, the graphical user interface configured to graphically select, sort, or move graphical fuel bundles* (page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies can be

rotated 90, 180 or 270 degrees, core locations are darkened where an assembly has been moved."

Being able to select a *symmetric* group of assemblies clearly teaches the limitation of *selecting,*

sort or move) into the graphical loading map based on one or more fuel attributes represented

by the graphical fuel bundles (pages 1 & 2 and more specifically, "In both PWR and BWR

versions, the core engineer design engineer can swap assembly locations in the core or "drag and

drop" assemblies and their modeling data from the Spent Fuel Pool or Fresh Fuel locations to the

core."); *and physically placing the fuel bundles into the reactor core according to the populated*

loading map.

However, *O'Sullivan* does not expressly disclose, *including one or more loading tools.*

Hogan teaches, *a graphical user interface including one or more loading tools,*

specifically Figure 9 shows a Graphical User Interface tool identical to the GUI tool disclosed in

Applicants' Figure 3 item #160.

O'Sullivan and *Hogan* are from the same problem solving area of providing Graphical

User Interfaces for performing data manipulation.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to have used the GUI tool of *Hogan* in the GUI environment of *O'Sullivan* to transfer

items from the Spent Fuel Pool locations as detailed by the figure on page 2 of *O'Sullivan* into a

reactor core during fuel recovery.

The suggestion for doing so would have been to provide an easy to use interface for

moving data from one table, *spent fuel pool* to another table *a fresh fuel table* without any

special knowledge of a computer interface. The efficiency and ease of use would motivate an

artisan of ordinary skill to provide the GUI tool as disclosed in *Hogan* in the Graphical User

Interface environment as disclosed by *O'Sullivan*, the Examiner further notes that the type of

tool as disclosed in *Hogan* is well known in the Graphical User Interface art and further that an

artisan of ordinary skill in the GUI programming arts would have been motivated to add this type

of GUI tool in order to make any simulation software easier to use. Further and in regards to the

requirement for a teaching, suggestion and/or motivation please see *Dann v. Johnson*, 425 U.S.

219, 189 USPQ 257 (1976) and *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*, --F.3d--, 82

USPQ2d 1687 (Fed. Cir. 2007) as well as *KSR International Co. v. Teleflex Inc.*, 550 U.S. --, 82

USPQ2d 1385 (2007). The cited cases recently decided by the Federal Circuit Court as well as

the U.S. Supreme Court clearly set forth that the references themselves do not have to expressly

disclose a teaching, suggestion or motivation to combine references in an obviousness type of art

rejection.

Therefore it would have been obvious to combine *Hogan* with *O'Sullivan* in order to

obtain the invention as specified in claims 35-48.

3.2   Regarding claims 37 and 43 and using claim 37 as an example, *O'Sullivan* combined

with *Hogan* teaches, *wherein the graphical user interface further includes at least one fuel pool*

table and a reload table, wherein the graphically populating includes, graphically selecting,

sorting, filtering, or moving the graphical fuel bundles within or among the graphical loading

map, the at least one fuel pool table, and the reload table via the one or more loading tools, the

selecting, sorting, filtering, and moving being based in the one or more fuel attributes of the fuel

bundles represented by the graphical fuel bundles (see pages 1 & 2 of *O'Sullivan* and Figure 9 of

Hogan).

3.3 Regarding claims 37, 39, 44 and 46 and using claim 37 as an example, *O'Sullivan*

teaches, *storing at least one fuel pool database, the fuel database including a fuel pool list of at*

least one of the fuel bundles residing in the fuel pool; and graphically populating the at least one

fuel pool table with a graphical representation of at least one of the fuel bundles on the fuel pool

list (*O'Sullivan* pages 1 & 2 "Access, SQL, Oracle or Sybase as well as Microsoft Excel and

Word").

3.4 Regarding claims 38 and 45 and using claim 38 as an example, *O'Sullivan* in

combination with *Hogan* teaches, *wherein the graphical user interface includes a fresh fuel*

table, and wherein the graphically populating includes graphically selecting, sorting, filtering,

or moving the graphical fuel bundles within or among the loading map, the at least one fuel pool

table, the reload table, and the fresh fuel table via the one or more loading tools, the selecting;

sorting, filtering, and moving being based on the one or more fuel attributes of the fuel bundles

represented by the graphical fuel bundles (see page 2 of *O'Sullivan* "Fresh Fuel Listing" as well

as page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies can be

rotated 90, 180 or 270 degrees, core locations are darkened where an assembly has been moved."

Regarding the loading tool see *Hogan* figure 9).

3.5 Regarding claims 40 and 47 using claim 40 as an example, *O'Sullivan* teaches, *analyzing*

the populated graphical loading map by simulating reactor performance with the populated

graphical loading map, the analyzing performed before the physically placing the fuel bundles

into the reactor core according to the populated loading map (see the description of "CPW for

SIMULATE-3" on page 1 of *O'Sullivan*).

3.6   Regarding claims 41 and 48 and using claim 41 as an example, *O'Sullivan* teaches,

wherein the one or more fuel attributes include at least one of exposure, a previous cycle in

which the fuel bundle was used, k infinity... O'Sullivan teaches, (page 2 "Spent Fuel Pool" K-

Infinity is the 7th column from the left).

Response to Arguments

4.   Applicants' arguments presented in the 8/20/2007 responses have been fully considered;

the Examiner's response is as follows:

4.1   Regarding Applicants' arguments presented on page 7 of the 8/20/2007 responses,

Applicants' argued;

Applicants respectfully submit that new independent claims 34 and 42 recites a method including

"graphically populating.., a graphical loading map" via tools configured to "sort, filter, or move

the graphical fuel bundles into the graphical loading map based on one or more fuel attributes of

the fuel bundles represented by the graphical fuel bundles." O'Sullivan teaches populating with

only a "drop and drag" tool that does not account for fuel attributes.

The Examiner respectfully traverses Applicants' arguments, dropping and dragging is

functionally the same as *graphically populating* because the GUI based mouse tool is animated

while the *drop and drag* function is being performed. Further and in regards to populating based

on fuel attributes, *O'Sullivan* teaches populating based on fuel attributes, see page 1 which

discloses, "Using a right click on the mouse, groups of symmetric assemblies can be rotated 90,

180 or 270 degrees, core locations are darkened where an assembly has been moved." Being able

to select a *symmetric* group of assemblies clearly teaches the limitation of *selecting, sort(ing) or moving* based on a fuel bundle attribute.
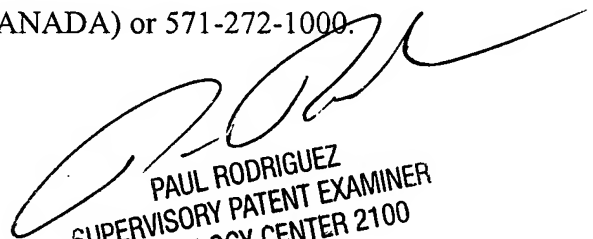
Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwin M. Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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